

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION (FAA)
MISSION SUPPORT SERVICES
AERONAUTICAL NAVIGATION PRODUCTS
<http://aeronav.faa.gov/>

DIGITAL EN-ROUTE SUPPLEMENT (DERS)

DERS_README.PDF FILE
Revision 1.6 - February 12, 2009
Revision 1.6 - Updated Instructions to Remove DAI CD Reference

Corrections for May 02, 2013

The U.S. NOTAM System will no longer be used to communicate Digital En-Route Supplement (DERS) errors. Beginning with the June 3, 2010 effective date, DERS error notification will be provided using the AeroNav Products web site. DERS users are encouraged to check the AeroNav Products web site <http://aeronav.faa.gov> and follow the Safety Alerts link for information on errors impacting the current edition of the DERS.

NOTE: THE FOLLOWING ALASKA T-ROUTE IDENTIFIED BELOW IN DERS HAS CONFLICTING SOURCE DATA AND IS BEING WORKED FOR RESOLUTION: T219.

NOTE: Due to late publication of Navaid and Fix additions and modifications, the files identified below were unable to reflect the following data:

CHANGE DP.DAT FILE TARGY ONE (OBSTACLE) DEPARTURE (LOW1.LOW) SERVICING YELLOWSTONE, WEST YELLOWSTONE, MT AS FOLLOWS:

LO	44	34	31.5	111	11	51.2	ZLC	-14	NDB	VICE
LO	44	34	31.5	111	11	51.2	ZLC	-16	NDB	

CHANGE ENLOW.DAT FILE V-3 AS FOLLOWS:

ADD YITUP 36 17 51.9 078 37 57.7 ZDC RPRT PT
BETWEEN STEMM RPRT PT AND OXFRD RPRT PT

CHANGE ENLOW.DAT FILE V-3 AS FOLLOWS:

DELETE UCELU 36 17 51.9 078 37 57.7 ZDC RPRT PT
BETWEEN STEMM RPRT PT AND OXFRD RPRT PT

CHANGE ENLOW.DAT FILE V-7 AS FOLLOWS:

DELETE MAUNA 30 42 50.3 084 36 02.1 ZJX RPRT PT
BETWEEN SZW (SEMINOLE) VORTAC AND SAIML RPRT PT

CHANGE ENLOW.DAT FILE V-11 AS FOLLOWS:

DELETE TULGY 34 02 35.9 089 56 04.8 ZME RPRT PT
BETWEEN RIGCY RPRT PT AND EDENT RPRT PT

CHANGE ENLOW.DAT FILE V-14 AS FOLLOWS:

ADD JAPUX 34 28 49.8 100 01 06.2 ZFW RPRT PT
BETWEEN CDS (CHILDRESS) VORTAC AND JAMMZ RPRT PT

CHANGE ENLOW.DAT FILE V-83 AS FOLLOWS:

ACHES 37 26 09.2 105 26 00.8 ZDV WAYPOINT VICE
ACHES 37 26 09.2 105 26 00.8 ZDV RPRT PT

CHANGE ENLOW.DAT FILE V-210 AS FOLLOWS:

ACHES 37 26 09.2 105 26 00.8 ZDV WAYPOINT VICE
ACHES 37 26 09.2 105 26 00.8 ZDV RPRT PT

CHANGE ENLOW.DAT FILE V-536 AS FOLLOWS:

ADD PENAE 46 55 57.3 116 42 46.1 ZSE RPRT PT
BETWEEN PUW (PULLMAN) VOR/DME AND JETTS RPRT PT

CHANGE OCEANIC.DAT FILE BLUE 503 AS FOLLOWS:

ENAMO 23 33 43.9 077 21 34.6 RPRT PT VICE
ENAMO 23 34 14.0 077 22 14.0 RPRT PT

CHANGE OCEANIC.DAT FILE BLUE 646 AS FOLLOWS:

EXTER 25 46 28.5 076 16 16.5 REPT PT VICE
EXTER 25 46 06.7 076 15 30.1 WAYPOINT

CHANGE OCEANIC.DAT FILE M329 AS FOLLOWS:

EXTER 25 46 28.5 076 16 16.5 REPT PT VICE
EXTER 25 46 06.7 076 15 30.1 WAYPOINT

CHANGE OCEANIC.DAT FILE M330 AS FOLLOWS:

ENAMO 23 33 43.9 077 21 34.6 RPRT PT VICE
ENAMO 23 34 14.0 077 22 14.0 RPRT PT

FOR THE DERS, THE FILES RECEIVED WITH THIS DELIVERY INCLUDE:

1. DERS_README.PDF - This file provides an overview of the Digital En-Route Supplement (DERS) and a list of formats for each data file included in the package.
2. Digital Aeronautical Data, *.DAT files.
3. CHKALL_DERS.EXE - A program for checking the data integrity on all DERS files in the same folder as the program.
4. BROWSE.EXE - A program used only to view ASCII text files.

***** IMPORTANT NOTE *****

FOR EVERY DERS DELIVERY,
BEFORE DOWNLOADING THE FILES TO YOUR COMPUTER,
CHECK THE EFFECTIVE DATES FOR THE DATA AND
DELETE ALL FILES FROM ANY PREVIOUS CYCLE.

DERS CONTACT INFORMATION

FOR CONCERNS WITH EITHER THE PROGRAMS OR THE DATA

INCLUDED WITH THE DERS PACKAGE, PLEASE CONTACT:

Federal Aviation Administration (FAA)
AeroNav Products
SSMC-4 Sta. #4445
1305 East-West Highway
Silver Spring, MD 20910-3281
TELEPHONE: 1-800-626-3677
Email: 9-AMC-Aerochart@faa.gov

FOR PROCUREMENT PLEASE CONTACT:

FAA, AeroNav Products Logistics Group
10201 Good Luck Road
Glenn Dale, MD 20769-9700
Online at <http://aeronav.faa.gov>
Telephone 1-800-638-8972
Fax 301-436-6829
Or any authorized chart agent
Email Questions to: 9-AMC-Chartsales@faa.gov

CAUTION

THE DIGITAL EN-ROUTE SUPPLEMENT IS DESIGNED TO BE USED
WITH AERONAUTICAL CHARTS FOR FLIGHT PLANNING PURPOSES ONLY.
IT SHOULD NOT BE USED AS A SUBSTITUTE FOR A CHART.

INSTRUCTIONS FOR VIEWING THE DATA FILES:

The DERS data files are ASCII text files and can be viewed in the editor or word processor of your choice. They are designed to be viewed with a non-proportional font, such as Courier New.

When viewing the files in Microsoft Notepad (or other editors), turn Word Wrap off. Word Wrap is turned on and off (in Notepad) by selecting it on the Edit Menu. Also (in Notepad), from the Edit menu, select Set Font. Choose the font Courier New and the text size you want. You can adjust how much of the file is viewable both horizontally and vertically by changing the size of the font and the size of the window.

In word processors, set the font for the entire file to Courier New with the text size you want. If the lines of the file do not fit and wrap to the next line, make the left and right margins smaller and/or the font size smaller. For the data files with long lines, in addition to adjusting the margins and font size, change the orientation from portrait to landscape.

An unsupported program called Browse is included with the DERS package. Browse is a DOS based program without editing capabilities used for viewing ASCII text files. Please refer to the Browse program instructions below.

ERROR CHECKING:

Included in each DERS package is a program for checking the integrity of the data files. The program is:

DERS - CHKALL_DERS.EXE

CHECKING INTEGRITY OF ALL DERS FILES: CHKALL_DERS

- After downloading the data and programs to your PC, double click on "CHKALL_DERS.EXE". CHKALL_DERS will run a data integrity check on every DERS file. After all of the files have been checked, a message will display the results. If any data errors occur, they will be listed in a file called "DERS_DATCHK_REPORT.TXT". This file will be put in your systems temporary directory, which is defined by the environment variable TEMP. You will be given an option to view this file. If errors do occur, print out this file and call the phone number for data errors listed in the section DERS CONTACT INFORMATION.

(NOTE: The CHKALL_DERS program must be in the same location as the DERS data files that are to be checked.)

BROWSE PROGRAM INSTRUCTIONS:

Browse is a DOS based program without editing capabilities used for viewing ASCII text files. The Browse program is included with the DERS package.

PLEASE NOTE: Browse may not work or only partially work in current versions of windows and is not supported by Aeronautical Navigation Products. It was included and supported in the early 1990's when there was limited access to programs that displayed very large ASCII files. Browse is no longer supported since it is a DOS program and the data files can now be viewed with modern text editors or word processors. See the above section INSTRUCTIONS FOR VIEWING THE DATA FILES. Browse is still included for those that use it.

The following list contains the features found in BROWSE.EXE and the keystrokes necessary to access those features.

TO VIEW AN ASCII FILE:

- Double click on "BROWSE.exe". A DOS window will come up, you will see the Data Files if you have the Browse.exe in the same location. If not, you will need to locate the *.DAT files. Double click on the *.DAT file with your mouse and you will see the data.

USING A MOUSE:

(NOTE: A mouse pointer will appear in the middle of the screen. Moving the mouse causes the pointer to move around, and BROWSE.EXE will support the following mouse functions:

- Place the pointer on the "(Up Arrow)" in the upper, right hand part of the screen and press the LEFT mouse button to scroll up through the document 20 lines at a time.
- Place the pointer on the "(Down Arrow)" in the lower, right hand part of the screen and press the LEFT mouse button to scroll down through the document 20 lines at a time.
- Place the pointer on the VERTICAL SCROLL BAR along the right hand side of the screen and press the LEFT mouse button to immediately display that portion of the document. Each block in the VERTICAL SCROLL BAR represents approximately 5% of the document. The lines at the end of the currently selected portion will be displayed on the screen.
- Hold the LEFT mouse button while moving the pointer in the VERTICAL SCROLL BAR to move through the document and display the lines at the end of the currently selected portion.
- Press the RIGHT mouse button to EXIT THE PROGRAM (See below)

TO SCROLL THROUGH A DOCUMENT, PRESS:

- "(Up Arrow)", "CTRL/W", or "CTRL/E" to scroll up 1 line.
- "(Down Arrow)", "CTRL/X", or "CTRL/Z" to scroll down 1 line.
- "(Right Arrow)" or "CTRL/D" to scroll right 1 column.
- "(Left Arrow)" or "CTRL/S" to scroll left 1 column.
- "CTRL/(Right Arrow)" or "CTRL/F" to scroll right 10 columns.
- "CTRL/(Left Arrow)" or "CTRL/A" to scroll left 10 columns.
- "(Page Up)" or "CTRL/R" to scroll up 20 lines.
- "(Page Down)" or "CTRL/C" to scroll down 20 lines.
- "(Home)" to place column 1 along the left-hand screen border.
- "(End)" to place the rightmost character along the right-hand screen border.
- "CTRL/(Page Up)" to view the top 20 lines of the document.
- "CTRL/(Page Down)" to view the bottom 20 lines of the document.

TO SEARCH FOR A CHARACTER STRING IN THE DOCUMENT:

- Press "CTRL/Q", release and press "F".
- Enter the text string to search for and press "Enter".
- The program then prompts for a search option.

Available Options are:

"G" - GLOBAL (Search both forward and backward in a file)
 "U" - REMOVES CASE SENSITIVITY (Searches for upper and lowercase letters)

Both options can be combined by placing a comma between them (EXAMPLE: "G,U" or "U,G").

- To select an option, type the appropriate letter(s) and

press "Enter" to initiate the search.

- The program will look through the document for the first occurrence of the search string. If an occurrence is found, the line will be displayed at the top of the screen and it will be highlighted. If an occurrence is not found, the computer will beep.

- To search for the next occurrence of the search string, press "CTRL/L". When the search string can no longer be found in the remaining part of the document, the computer will beep.

Bookmarks can be a useful tool for easy reference to a specific line of text. BROWSE maintains space for 4 bookmarks, labeled 0-3, respectively.

TO PLACE A BOOKMARK:

- Use the Arrow Keys to place the line to be marked at the top of the screen. Press "CTRL/K", release, then the number of the bookmark to be used. The bookmark number will appear in the upper-left part of the screen.

TO ACCESS A BOOKMARK:

- Press "CTRL/Q", release, then the bookmark number. The marked line will appear at the top of the screen.

TO REMOVE A BOOKMARK:

- Use the Arrow Keys to place the line with the bookmark at the top of the screen. Press "CTRL/K", release, then the bookmark number to be removed. The bookmark must be in use and the line containing the bookmark must be at the top of the screen to remove it. Otherwise, the line at the top of the screen will become marked.

TO EXIT THE PROGRAM:

- Press "ESC"

List of DERS Data Files:

ENHIGH.DAT	High Altitude Airways data
ENLOW.DAT	Low Altitude Airways data
IAPFIX.DAT	Selected Instrument Approach Procedure NAVAID and Fix data
ALHIGH.DAT	Alaska High Altitude Airways data
ALLOW.DAT	Alaska Low Altitude Airways data
PR.DAT	Puerto Rico Airways data
HAWAII.DAT	Hawaii Airways data
BAHAMA.DAT	Bahamas Routes data

OCEANIC.DAT	Oceanic Routes data
STARS.DAT	Standard Terminal Arrivals
DP.DAT	Departure Procedure data

DIGITAL EN-ROUTE SUPPLEMENT

FOREWORD

The Digital En-Route Supplement is specifically designed to provide digital Airspace data not otherwise readily available. The product is updated every 56 days. In addition to the 56-day IAPFIX.DAT file is a Change Notice issued at the mid 28-day point containing changes that occurred after the 56-day publication. The Change Notice is available on the Internet only, go to <http://aeronav.faa.gov> and click the Related Information link.

Routes are listed numerically in ascending order according to the official description. A break in continuity of a route is indicated by a blank space in the listing. Navigational aids and fixes are listed with their official location identifier, if one has been assigned. Fixes without official location identifiers (airway intersections, ARTCC boundary crossing points, etc.) are identified by a five-digit computer code (FAA number). This number is for automation purposes only and is not intended to be used for any part of a filed route of flight.

Horizontal Datum: Alaska, Canada and Conterminous United States based on 1983 North American Datum. All other areas are based on local datum.

Additions and revisions are indicated by an appropriate symbol next to the changed item. Deletions are listed at the end of ENHIGH.DAT, ENLOW.DAT, IAPFIX.DAT, ALHIGH.DAT, ALLOW.DAT, BAHAMA.DAT, HAWAII.DAT, OCEANIC.DAT, PR.DAT, STARS.DAT, AND DP.DAT.

Selected Instrument Approach Procedure NAVAID & Fix Data is an alphabetical listing of IAP airports by state, city and airport. The DERS STARS and DPs are listed alphabetically by state and airport.

Beginning with the March 17, 2005 Effective Date, all new RNAV STARS and DPs will omit Victor and Jet Airway Intersections (labeled "AWY INT"). In the past, these Airway Intersections were shown in STARS and DPs whether the STAR/DP utilized an RNAV or a conventional guidance system. However, since RNAV STARS and DPs may only be flown using RNAV guidance, the inclusion of Victor and Jet Airway Intersections is unnecessary. Existing RNAV STARS and DPs will be edited to remove these Airway Intersections as the individual procedures are revised. The only files affected by these changes are STARS.DAT and DP.DAT.

** FORMATS FOR DATA FILES IN THE DIGITAL EN-ROUTE SUPPLEMENT **

NOTE: The following pages describe the formats for headers and data in each of the Digital En-Route Supplement data files. File headers begin on line 28.

FORMATS FOR THE FOLLOWING:

High Airways (ENHIGH.DAT), Low Airways (ENLOW.DAT), Alaska High Airways (ALHIGH.DAT), Alaska Low Airways (ALLOW.DAT), Puerto Rico Airways (PR.DAT), Hawaii Airways (HAWAII.DAT), Bahamas Routes (BAHAMA.DAT), Oceanic Routes (OCEANIC.DAT), Standard Terminal Arrival (STARS.DAT), and Departure Procedures (DP.DAT) data.

In these .DAT Files, the file header is followed by a 5-line DERS name and effective date header. Lines 1 and 3 contain 79 "=" characters. Line 2 lists the DERS name and effective date. Lines 4 and 5 are blank.

In ENHIGH.DAT, ENLOW.DAT, ALHIGH.DAT, ALLOW.DAT, BAHAMA.DAT, HAWAII.DAT, OCEANIC.DAT and PR.DAT, the header for each airway or route is made up of 4 lines. Line 1 lists the airway or route. Line 2 is blank. Lines 3 and 4 are the column headers for the airway detail lines.

The procedures in STARS.DAT and DP.DAT are ordered by state and airport. There is a 2-line state-name header for every change in state. Line 1 contains the state name starting in column 1 followed by a series of "=" characters through column 79. Line 2 of the state-name header is blank. A 5-line airport-name header appears whenever there is a change in airport name within the current state. Line 1 of the header contains 3 "=" characters followed by the airport name, ", ", and the state name; the remainder of the line is filled with a series of "=" characters through column 79. Line 2 is blank. Lines 3 and 4 are the column headers for the procedure detail lines. Line 5 is blank. The procedures, transitions and detail lines are listed under every airport with which procedures are associated. A blank line separates different procedures.

There is a DATCHK code right justified at the end of every line in the file.

The data for each airway or route is in the following format:

Column	Data Element	Description
1	Change Code	Flag for modification made during the current NAS cycle A - Add C - Change
2	Blank	
3-19	Point Location Identifier	Identifier of NAVAID, air fix, or route crossing point
20	Blank	
21-25	Fix Identifier	
26-28	Blank	
29-30	Latitude Degrees	
31	Blank	

32-33	Latitude Minutes	
34	Blank	
35-38	Latitude Seconds	To tenths of seconds with decimal point
39	Latitude Hemisphere	North if blank
40-41	Blank	
42-44	Longitude Degrees	
45	Blank	
46-47	Longitude Minutes	
48	Blank	
49-52	Longitude Seconds	To tenths of seconds with decimal point
53	Longitude Hemisphere	West if blank
54	Blank	
55-57	ARTCC Code	ZSE - Seattle ZOA - Oakland ZLC - Salt Lake City ZDV - Denver ZLA - Los Angeles ZAB - Albuquerque ZFW - Fort Worth ZHU - Houston ZAU - Chicago ZMP - Minneapolis ZKC - Kansas City ZME - Memphis ZTL - Atlanta ZJX - Jacksonville ZMA - Miami ZDC - Washington DC ZID - Indianapolis ZOB - Cleveland ZNY - New York ZBW - Boston ZHN - Hawaii ZSU - Puerto Rico ZAN - Anchorage ZUA - Guam
55-57	ARTCC Code (Canada)	ZVR - Vancouver ZEG - Edmonton ZWG - Winnipeg ZYZ - Toronto ZUL - Montreal ZQM - Moncton

		ZQX - Gander
55-57	ARTCC Code	ZXM - Mexico
58-60	Blank	
61-63	Magnetic Variation	NAVAIDS Only
64-66	Blank	
67-76	Facility Type	
77-79	Blank	
80-85	DATCHK Code	Right Justified

In ENHIGH.DAT, ENLOW.DAT, ALHIGH.DAT, ALLOW.DAT, BAHAMA.DAT, HAWAII.DAT, OCEANIC.DAT and PR.DAT, blank lines occur between routes and airways.

In STARS.DAT and DP.DAT, a blank line separates procedures.

Deletions are listed at the end of the file. The deletions header is similar to that of active data. Line 1 of the deletions header is exactly the same. Line 2 states "(Deletions List)". Lines 3-5 of the deletions header are exactly the same as lines 2-4 of the active data header. For STARS.DAT and DP.DAT, the deletions are prefaced by a 5-line deletions header. Lines 1 and 2 consist of 79 "=" characters. Line 3 contains the words "(DELETIONS LIST)" starting in column 32; the preceding and following columns are filled with "=". Lines 4 & 5 are blank. The state header is the same. The airport name header has a "DELETIONS LIST" line following the airport/state name line. Lines 3-6 are the same as lines 2-5 of the active airport name header. For all .DAT Files, ENHIGH.DAT, ENLOW.DAT, ALHIGH.DAT, ALLOW.DAT, BAHAMA.DAT, HAWAII.DAT, OCEANIC.DAT, PR.DAT, STARS.DAT and DP.DAT, the deletions detail data follows the format described above for active data.

FORMAT FOR IAPFIX.DAT:

Selected Instrument Approach Procedure NAVAIDS and Fix data.

The file header contains seven lines of data. Lines 1-2 contain the file title and the effective date of the data. Line 3 is a blank line. Lines 4-6 are the titles for the column information, followed by line 7, which is blank. The data begins immediately following the file header. Data in the IAPFIX.DAT file is listed by city, state, and airport. Each airport has a header. The airport header is made up of 3 lines. Line 1 lists the city and state where the airport is located. Line 2 contains the airport name and its location identifier in parentheses. Line 3 is blank. The data or the airport follows each airport header. The type of data (NAVAID or Fix) is listed, then a blank line, followed by the data itself. All lines in the headers have a DATCHK code right justified at its end. The NAVAID and Fix data uses the following format:

NOTE: The fix longitude data is offset by one character from the

NAVAID longitude, otherwise the records are the same. Where there is a difference in columns between the NAVAID and Fix records, the Fix columns will be in parentheses.

Column	Data Element	Description
1	Change Code	Flag for modification made during the current NAS cycle A - Add C - Change
2-3	Blank	
4-8	Location Identifier	
9-15	Blank	
16-17	Latitude Degrees	
18	Blank	
19-20	Latitude Minutes	
21	Blank	
22-25	Latitude Seconds	To tenths of seconds with decimal point
26	Blank	
27	Latitude Hemisphere	
28-33 (28-34)	Blank	
34-36 (35-37)	Longitude Degrees	
37 (38)	Blank	
38-39 (39-40)	Longitude Minutes	
40 (41)	Blank	
41-44 (42-45)	Longitude Seconds	To tenths of seconds with decimal point
45 (46)	Blank	
46 (47)	Longitude Hemisphere	
47-51	Blank	

(48-51)

52-54	Magnetic Variation	NAVAIDS Only
55-61	Blank	
62-67	Elevation	NAVAIDS Only, zero filled, sign in col. 62 (blank if above sea level)
68-70	Blank	
71-77	Type	Facility Type
78-79	Blank	
80-85	DATCHK Code	Right Justified

Blank lines occur between record types.

A Deletions list appears at the end of the file. The deletions list header contains four lines. Lines 1-2 contain the title and the effective date. Line 3 contains the word "DELETIONS", followed by line 4, which is blank.

The NAVAID and Fix records in the deletions section are preceded by a line containing the city and state, a second line with the airport name and identifier, and a third line, which is blank. These lines are left justified, using a format similar to that of the airport header. The NAVAID and Fix records have the following format:

Column	Data Element	Description
1	Change Code	Flag for modification made during the current NAS cycle D - Entire Airport Deleted
2-3	Blank	
4-8	Facility Name	
9-11	Blank	
12-18	Type	Facility Type
19-79	Blank	
80-85	DATCHK Code	Right Justified

The High and Low Preferred Route files are no longer included after the May 5th, 2011 effective date. Customers may obtain Preferred Route data through a subscription to the NASR (National Airspace System Resource) subscriber files. The NASR subscriber files are available as a free download from FADDS (Facility Aeronautical Data Distribution System) via the NFDC (National Flight Data

Center) web site at nfdc.faa.gov. There is a 'New User Registration' link at the bottom of the page where customers may set up an account.

The Military Training Route (MTR) file will no longer be included in the Digital En-Route Supplement (DERS) beginning with the March 7th, 2013 effective date. Customers may obtain MTR data similar in content through a subscription to the NASR (National Airspace System Resource) subscriber files. The NASR subscriber files are available as a free download from FADDS (Facility Aeronautical Data Distribution System) via the NFDC (National Flight Data Center) web site at nfdc.faa.gov. There is a 'New User Registration' link at the bottom of the page where customers may set up an account.